

Montana and the Sky



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MONTANA AERONAUTICS DIVISION

December 1983

FAA Rulemaking for Radar Device Announced

Secretary of Transportation Elizabeth Dole has announced that the FAA has initiated rulemaking for a key element in modernizing the nation's airspace system — installation of a new radar device on civil aircraft that will improve controllers' ability to identify planes on their radar displays.

The device, a new technology Mode S transponder, performs the same basic function as the existing one — automatically transmitting aircraft identity and altitude information when triggered by ground signal.

However, the main advantage of the new transponder is that it is queried on a selective, or individual, basis rather than on an all-call basis as with present equipment. The difference is similar to that between a private phone line and a party line, where everyone answers to the same ring.

Because of its "selective address" capability, the transponder significantly reduces the problem of aircraft identification that can result from many responses to the same signal, as can happen in congested airspace.

FAA's advanced notice of proposed rulemaking is related to development of a new Technical Standard Order (TSO) for Mode S transponders that would replace the present order for the existing equipment in 1986. FAA is considering following with an order requiring all newly installed transponders to meet the new standard.

Aircraft operators would not be required to replace already installed transponders. They could continue to use the present equipment indefinitely.

The new transponder, because of its "private line" capability, provides a medium for electronic message transmission. This enables pilots to obtain air traffic control clearances, weather, and other pertinent flight data on their cockpit displays.

The FAA plans to award a contract early in 1984 for 137 of the Mode S ground stations. This network later would be expanded to 197 stations.

Mechanics Seminar Set

The annual Aircraft Mechanics Seminar sponsored by the Montana Aeronautics Division will be held on February 28, 29, and March 1, 1984, at the Coach House East in Helena.

Application forms will be mailed in mid-January to all aircraft mechanics who hold AI certification, FBOs and repair stations. Room stipends will be awarded to the first thirty qualified applicants. All Montana aircraft mechanics are invited to attend. Many of the major aircraft and aircraft parts manufacturers will be represented at the seminar.

Applications for AI renewal will be accepted by the FAA at the seminar.

Big Sky and Cascade to Serve Butte

Big Sky Airlines and Cascade Airways have announced plans to inaugurate service to Butte. This comes as a result of the announcement by Northwest Airlines that they would no longer serve Butte. Big Sky's service will begin on January 9 with Cascade's commencing on January 8.

Big Sky plans to link Butte with Billings via two daily round trip flights — morning and afternoon/evening — using their fifteen passenger Swearingen Metroliner aircraft. According to Terry Marshall, president of Big Sky, this schedule will double the frequency of service between Butte and Billings and will maintain the existing frequency of service between Butte and all major points located east of Billings. In addition, Big Sky and Northwest plan to publish joint coach and first class fares for Butte which will match existing through-fare levels.

Cascade will provide one daily roundtrip on a non-stop basis to Spokane, Wash., with single plane service, on-line connections, or interline connections to Seattle-Tacoma, Portland, Boise, Calgary, Alberta and many other points in Washington, Oregon, Idaho, Alaska, California, and Hawaii. Additional flights to Spokane are planned within the first quarter of 1984. All Cascade flights will be operated with nineteen passenger pressurized prop jets — Fairchild Metro III or Beechcraft 1900.

Administrator's Column

The Montana Aeronautics Board met December 6 and 7 in Helena. Many items of business were addressed, some of which were:

*The U.S. Forest Service proposed closure of the Sondreson airstrip located on the north fork of the Flathead River. A final decision has been postponed until January 6, 1984. Congressman Ron Marlenee has requested that the U.S. Forest Service delay any action until he has had the opportunity to personally inspect the airstrip.

*Board member Terry Marshall, president of Big Sky Airlines, gave a report and explained plans for route changes which include expansion into Butte, Helena, Kalispell and Calgary. Northwest Airlines plans to exit Butte on January 8 and Big Sky Airlines will inaugurate service from Billings into Butte and Helena on January 9. Big Sky has also inaugurated service from Billings to Kalispell and on to Calgary. Cascade Airlines will also inaugurate service from Spokane to Butte on January 8.

*Board member Ted Mathis gave a report on the proposed statewide aviation conference to be held in the spring of 1984. It is anticipated that the conference will include participation of all facets of the aviation industry, such as the flying organizations, airport operators, FBOs, ag operators, manufacturers, aircraft sales, maintenance, flight training, weather reporting, the FAA, etc.

*State law governing commercial operators liability insurance which needs to be raised to conform to the federal government minimums. The Aeronautics Board plans to conduct a public hearing on February 8 to take testimony on whether or not to raise the state's minimum limits.

*Raymond Brault, Department of Commerce attorney, briefed the Board on the status of the Seeley Lake seaplane base which is virtually at a standstill pending further court action. A new hearing date has not been set. Mr. Brault also briefed the Board on their quasi-judicial status and the responsibilities associated therewith.

*Completion of the Del Bonita customs clearing airport located northwest of Cut Bank. The runway has been bladed, grass seeded, fenced, windsock standard and sock installed, and unicom installed in the U.S. customs office. The airstrip is now nearing final completion, awaiting only the installation of runway marker cones which the Aeronautics Division has on order. Although the airstrip is now useable, official opening is planned for sometime in the spring of 1984.

* * * * *

On behalf of the Montana Aeronautics Board and the Aeronautics Division staff, I would like to wish each of you a very Merry Christmas and a Happy and Prosperous New Year. Safe Flying!!!



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CALENDAR

Jan. 11 — Flying Companion Seminar, CFR Building, Gallatin Field, Belgrade.

Jan. 14 — MPA Winter Board Meeting, Chico Hot Springs.

Jan. 18 - 21 — Helicopter Association International Convention, Las Vegas.

Jan. 25 - 28 — MATA Convention, Holiday Inn West, Billings.

Feb. 28 - March 1 — Aircraft Mechanics Refresher Seminar, Coach House East, Helena.

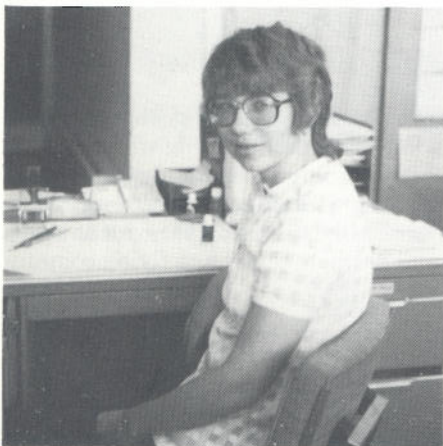
March 2 - 4 — Winter Survival Clinic, Helena and Lincoln.

March 23 - 25 — Flight Instructor Refresher Clinic, Coach House East, Helena.

Sept. 21 - 23 — Mountain Search Pilot Clinic, Kalispell.

Sept. 22 — Jackpot Air Race. (Spots should be reserved as soon as possible as the race is already almost full. Call Patti Thompson in Great Falls at 452-8800 after January 1.)

MEET BARBRA



We're somewhat tardy with this introduction, but we'd like you to meet Barbra Proulx. Barbra assumed the duties of receptionist/secretary in the Aeronautics Division office on September 20. She replaced Nita Fjeseth who moved to Bozeman. Barbra grew up in the Dillon area and has been around Helena for seven years. She and her husband Pat have two little boys and live in East Helena.

WHY REGISTER?

**By: Patty Mitchell, Supervisor
Aviation Safety and Compliance**

If you are reading this article in the newsletter, the chances are that you are a registered Montana pilot. However, many pilots in the state have not registered and do not understand that they are required by law to register.

First of all, registration is required by law as cited in the Montana Code 67-3-211. The legislature requires this of all Montana pilots who have soloed. The registration fee is \$1, and registration is due on January 1 of each year. Cards were mailed to all previously registered pilots near the end of November. In addition, extras will be mailed to state FBOs.

For the dollar you spend for registration, you receive mailings for pilot safety clinics and seminars sponsored by the Montana Aeronautics Division. Notices will be sent for the Mountain Search Pilot Clinic, the Winter Survival Clinic, Flight Instructor Refresher Clinic, plus any additional seminars or aviation activities that the Division sponsors. In the event that your airplane is overdue or lost, information on your pilot registration will become invaluable.

By checking the appropriate boxes on the pilot registration card, you can also order an airport directory and aeronautical chart — \$2 each — or subscribe to the newsletter at a cost of only \$2.

Every week we get a call from someone who found out about the Mountain

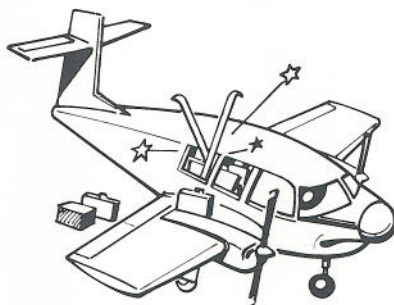
Search Pilot Clinic and wondered why they did not receive notice of this event. On the back of your registration card, there is an area for you to indicate if you volunteer to serve as a search pilot. Mailings announcing the clinic are sent to those who have volunteered. Announcements of flight instructor clinics are sent to those who indicate on registration that they are flight instructors.

Many pilots confuse membership in the Montana Pilots Association with Montana state pilot registration requirements. The MPA is a private aviation group that is made up of individual Montana pilots and has no direct affiliation with the Montana Aeronautics Division. Dick Markle is the state president of the MPA and will be glad to give you MPA membership information if you write to him at 631 Tenth North in Glasgow.

Be sure that you register each year and encourage your friends to do the same. Flight instructors should carry registration application cards so that when you congratulate your students on their first solo they can immediately fill out and mail the registration card and receive a directory, a chart, and a subscription to the newsletter. This will encourage them to keep flying and introduce them to a publication that will keep them informed on aviation events in the state, membership in flying organizations, safety articles, and a recognition of those who receive new ratings or licenses.

Companion Seminar Planned at Belgrade

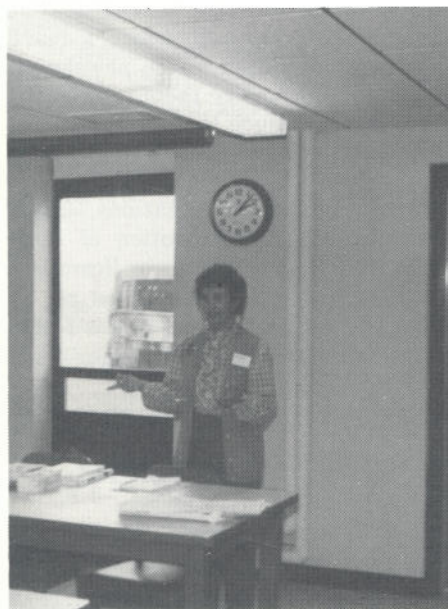
The Montana Aeronautics Division and the Montana 99s will sponsor a Flying Companion seminar at Gallatin Field in Belgrade on Wednesday, January 11. The seminar, to be held in the CFR building, will begin at 8:00 a.m. and will conclude at 3:00 p.m. For further information contact Lynne Kitto, 282-7438 in Amsterdam.



Flying Companion Seminar Held in Helena



Sidney Poole, Helena (second from right), was the winner of a half hour of free flying instruction donated by Morrison Flying Service and raffled by the 99s at the Flying Companion seminar held in Helena November 16. Here Sidney poses with seminar instructors (from left) Loretta Chapman, Gardner, Patty Mitchell, and Lynne Kitto, Amsterdam.



Kay Roam, Billings, a 99 who works in the Flight Service Station at Logan Field, explains weather reports to Helena seminar participants.



Esther Brown gets some help from husband Don in charting a course during the Helena seminar. Don has flown for years, but Esther has never quite felt comfortable with it. She was one of 26 participants who attended the Helena seminar.

Valley Hangar Sponsors Air Tour

Clear skies and pleasant temperatures were ordered and delivered on October 30 when the Valley Hangar of the Montana Pilots Association held its 1983 air tour. This year the tour attracted 13 airplanes and 30 participants. The tour consisted of six airports located in central and northern Valley County.

The pilots and passengers met at the Glasgow Airport at 8:00 a.m. that Sunday morning for coffee and rolls and a pre-tour briefing and departed Glasgow about 8:30. The morning tour included stops at Frank Kummerfeldt's and Leo Shellerud's, then on to West Poplar, just inside the Canadian border, and a brief visit with Canadian customs officials.

The group then returned south to Opheim where flour bombing and spot landing contests were held after which they enjoyed a lunch provided by the ladies of the Catholic church. After lunch they flew to Ken Bogar's strip for a brief meeting and then back to Glasgow as the final stop. At the conclusion of the tour, prizes were awarded to winners of the flour bombing and spot landing contests.

Pilots and passengers enjoyed doing some recreational flying while gaining experience in cross country flying and landing techniques. Most of all, pilots were able to visit, share techniques, and promote safety as a flying community.

(NOTE: Montana and the Sky is interested in aviation activities of individuals and groups from local communities. Please send us stories and photos — typed or printed and clearly identified — for inclusion in the newsletter. We reserve the right to edit and condense to meet space restrictions.)



NIFA AIR MEET HELD IN BOZEMAN

The Montana State University Flying Bobcats hosted the Regional Collegiate Air Meet in Bozeman at Gallatin Field on Saturday, November 12.

Colleges participating in the precision flying events included Montana State University, Boise State University, Metropolitan State College of Denver, Colo., Northwestern Community College from Rangely, Colo., and Treasure Valley Community College of Ontario, Ore.

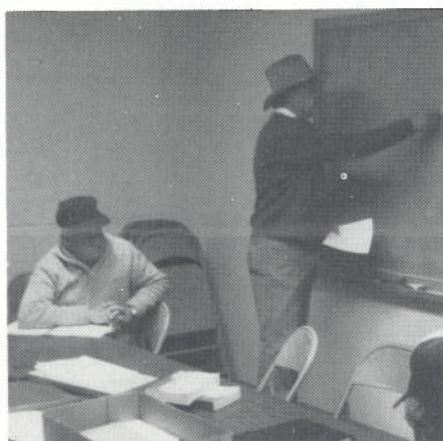
The colleges fielded a total of 45 contestants for the meet. The events included power off and power on accuracy landings, message drops, a pre-flight contest, aircraft identification, and flight computer skill.

Aside from one National Intercollegiate Flying Association official who came from San Diego, judges were all from the local area. They included: Jim Monger, head judge, Belgrade; Jack Wilson, Helena; Ted Mathis, Belgrade; Ray Tocci, Three Forks; Bob Taylor, Helena FSDO, FAA; and Ron Dent and Fred Hasskamp, Montana Aeronautics Division. Harley Leech is the advisor of the MSU group.

First place winner at the Bozeman meet was Metropolitan State College. Winning the second place award was Boise State College. These two flying groups have earned a spot at the national meet to be held in Colorado Springs in April.

The award for the team showing the greatest consideration for safety in all phases of flight from the preflight to takeoffs and landings was won by Metropolitan State. They were consistent in precision flight maneuvers, use of landing lights, chocking the wheels, and removing the key from the ignition switch when the airplane is left unattended. Another important consideration in the safety award was the checking for traffic by use of a 360 degree turn prior to takeoff.

The future of aviation should be bright with all the young men and women working so hard to achieve excellence as shown by their demonstrations of flying skills at the Bozeman meet.



Head Judge Jim Monger gives instructions at judges' briefing while Jack Wilson, Helena, listens.



Bob Taylor (left), of the Helena FSDO office, and Ray Tocci, Three Forks, judge the message drop contest at the regional collegiate air meet at Gallatin Field.



Ted Mathis (left), manager of Gallatin Field, and Bob Taylor judge the pre-flight contest.



Jim Monger weighs objects to be used in the message drop contest.

Prepare a Do-It-Yourself Survival Kit

**By: Fred Hasskamp, Chief
Safety and Education Bureau**

We hope you never need a survival kit, but should you be involved in such an emergency, the decisions you make during the first few hours will be critical to your survival. It could be you against the natural elements — cold, wind, rain. Your job is outwitting them.

It is most important to conserve body heat and liquids along with your limited supply of energy. The seriousness of the situation will depend on your physical condition, weather conditions, terrain, and the resources at hand. Success or failure will depend on your ability to adapt to the situation. You will need to provide the necessities of life — shelter, warmth, energy, and water — long enough to get yourself out of trouble or long enough for someone to find you. "Survival Sense for Pilots" by LaValla and Stoffel is an excellent source of information on the subject.

Many of our readers have heard survival presentations by Skip Stoffel at Montana Aeronautics Division clinics, so the purpose of this article is a reminder that, especially with winter weather on its way, it would be a good time to assemble a survival kit that can be kept on board your aircraft (or any other vehicle, for that matter).

The following is an example of what you might put in a lightweight kit per FAA advisory circular NW8000-19. If you have room, you might want to add other items such as a sleeping bag, space blanket, and other creature comforts you may determine useful in an emergency situation.

DO-IT-YOURSELF SURVIVAL KIT

Metal Can: one-pint size with lid — container for kit and cooking pot.

Candle: half of a Christmas candle or a plumber's candle — use to build a fire or can heat one to four cans of water.

Matches: penny box of matches (strike anywhere type) — use to light fire or candle (waterproof in plastic bag).

Leaf Bag: 7-bushel size fits a 6' man — cut a hole in the sealed end and cover head if possible (not face).

Garbage Bag: 30-gallon size — pull up over legs and tuck in pockets to protect legs from wind and rain. Both of these bags can be used for shade from the sun.

Sugar Cubes: 6 to 12 cubes will give instant energy needed to move muscles for heat production. Wrap in plastic.

Plastic Tape: may be used to seal kit, patch clothing, secure the plastic bags, as emergency bandages, etc.

At this point you have an absolute minimum kit. We suggest that you add the following to make it more useful:

A Single Edge Razor Blade or, better yet, *a Good Knife.*

Bandage, Band-aids, and Disinfectant, Aspirin.

Tea Bags and Bouillon Cubes.

Dimes for Telephone.

Nylon Fish Line and Hooks.

Small Whistle.

Small Metal Mirror.

Small Package of Medium Wire: 18 gauge.

Salt.

The list is endless — use good judgment and make it useful. Remember, you can survive only:

3 minutes without air

3 hours without body protection

3 days without water

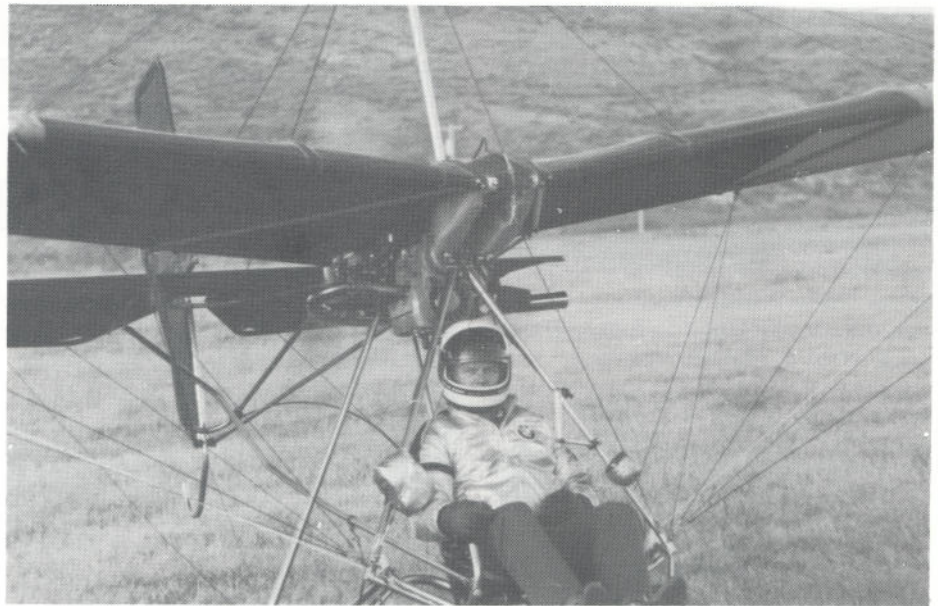
3 weeks without food

? without the will to live.

We sincerely hope you never have to use this information.



ELSHIRE IS BITTEN!



If you could see the grin behind the helmet, you'd know how Martin Elshire feels about his new interest — an Eipper Quicksilver MX ultralight he purchased on October 1, 1983. Martin is vice president of Aerotronics II in Great Falls, an avionics firm. He holds a commercial pilot rating and recently decided to satisfy his curiosity about ultralights by flying a demonstrator. He was immediately bitten by the bug. Martin has logged over eleven hours flying time with his ultralight and has the difficult decision now of dividing his off hours between flying airplanes, sailing (he's avid on that score, too), and flying his ultralight. Rumor has it that his new goal is to have the first Loran C equipped ultralight in Montana!

Confessions of a Scud Runner

By: Archie Trammell

Everyone knows that pushing the weather on a VFR flight is most unwise. Look at the statistics. Each year some 200 accidents are listed by NTSB as "Continued VFR into Adverse Weather Conditions."

About 65% of those are fatal accidents resulting in 200 to 250 deaths.

Yet pilots continue to scud run. Not all of them are low-time flyers who haven't learned better. Many are high time, instrument rated, and of sound judgment. They scud run successfully throughout a long flying career. They've found it necessary to do so from time to time because of ice aloft, high headwinds at IFR altitudes, equipment failures, or ATC saturation. So they've disciplined and taught themselves how to scud run safely. I confess I do it many times each year.

To scud run safely you must first learn to be a coward, admit you have a yellow streak. The regulations say you can fly when the visibility is only one mile in uncontrolled airspace; or three miles in controlled airspace.

Since the regulations allow it, novices try it. But if you want to see an extremely nervous man, watch an experienced pilot in visibilities of less than *five* miles. He'll be headed for the nearest suitable landing area or on the mike demanding an IFR clearance from ATC.

To an experienced pilot, VFR in less than 1,500 and seven is marginal; in less than 1,000 and five it's terrifying.

So, since he doesn't like flying scared, the first thing the experienced scud runner does is carefully check the weather and trends all along the route, to either side of it and on beyond. If any station has less than five miles, or is forecasting less than five miles, he doesn't go VFR.

He also checks the temperature/dew-point spread all along the route and if it's less than 5 degrees, or less than 10 degrees and decreasing, he doesn't go

VFR. When the spread is 5 degrees or less, cloud bases will be 1,000 AGL or less and that's scary.

The experienced scud runner has also developed several seat-of-the-pants rules that he will not breach:

- He doesn't plan a flight across higher terrain between reporting points. He's learned there are literally hundreds of traps built into the weather reporting system. Two stations close together may be reporting good VFR, but there is often IMC between them.

- At night anything less than 5,000 and 10 is scud running. The experienced, therefore cowardly, pilot will not go VFR in anything less. For scud-running purposes, night begins one hour *prior* to sunset and lasts to one hour after sun rise.

- He doesn't scud run a route that he hasn't previously flown at 1,500 feet AGL or less. He will break this rule only if he has an experienced, trusted, map reader in the right seat.

- He will not scud run toward worsening weather. The tendency to push on a few miles further toward the destination is too great. He wants to see reports of five miles or better at several stations *beyond* his destination.

- He is very cautious about scud running toward big cities or large bodies of water. He has learned that the slightest shift in temperature or wind can cause an instant change in visibility and there's a 50% chance it'll go down rather than up.

- He doesn't scud run into his final hour of fuel, ever.

During the flight itself, the experienced bad-weather pilot flies low, really low. The novice will try to stay relatively high, running along in the bases with patches of scud below him, or so high his slant-range visibility is severely reduced.

If you're going to scud run, then drop down low and get with it. Throttle back to a comfortable slow-speed cruise and keep the terrain features clearly in sight.

Don't overrun your visibility. At 90 knots, you'll need one mile to initiate and complete a 180. That's one mile

forward and one mile in the direction of the turn. So each instant predetermine which way you will turn should a 180 become necessary. And don't forget to add power during the turn. (Also, watch carefully for carb ice.)

Keep the navigation simple. Follow a highway or railroad. Be cautious about following a large river or coastline. That's where the poorest visibilities tend to gather.

Tune your receiver to the nearest tower, to an FSS frequency of 123.6 or to Unicom. Conversations you overhear will tell you how the weather is holding up — or not holding up — at stations along the route.

Of course, check weather frequently, always asking for the temperature/dew-point spread.

Always have an out, preplanned and ready to execute. This is especially critical for the VFR pilot. With an instrument rating, the out is simply to climb. But the VFR pilot must get *down*.

So always have an airport at your back, not more than 10 minutes behind you. It should be one you've flown over, carefully noting landmarks to guide you back. If you have to return, follow the precise path you used outbound. It's the only one you can be certain is obstruction free.

Don't get cut off from your escape airport by ridges or rolling hills. The rule of thumb is to always have at least two ridges and two valleys in view, both in front and behind you. If it drops to less than that, you are in danger of either hitting a ridge, getting trapped or becoming spatially disoriented.

If you do get trapped, land in the nearest open area available. Be mentally prepared for that. It's the price you may have to pay for scud running. Remember, it's better for you to call your insurance man than for someone to call him for you because you are deceased.

Finally, turn on all your lights. It's not likely anyone else is dumb enough to be out there with you. But if they are, you want them to see and avoid you.

Air Safety Journal
January/February 1983

FAA Issues Certificates

PRIVATE

Nels Liudahl Billings
 Fredrick Gratke Billings
 Keith Cavender Martinsdale
 Riley Cooke Billings
 John Gysler Wolf Point
 Marie Erickson Glendive
 Levon Hanson Opheim
 Robin Carnes Shepherd
 Kelly Gundlach Birney
 Mary Rees Sidney
 Shirley William Sidney
 Jeffrey Zeigler Havre
 Janice Fagenstrom Cascade
 Harold Hofmann Great Falls
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 Orvil Davis Billings

Linda Bowman Billings
 Gene Staudinger Billings
 Paul Baker Zortman
 Terry Tintzman Columbia Falls
 John Wise Bozeman
 Patricia Lindsey Helena
 David Johnson Hamilton
 Eric Manchon Hamilton
 Maureice Gardner Geraldine
 Larry Carver Stanford
 Donald Carver Stanford
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COMMERCIAL

Scott Smith Helena
 Mary LaMoy Missoula
 Tony Engler Missoula
 Gary Jorgenson Helena

INSTRUMENT

Randall Yaeger Helena
 Richard Markle Glasgow

Michael May Billings

MULTI-ENGINE

Carl Shonk Great Falls
 Mark Mamuzich Conrad
 Joseph Brand Great Falls
 Debra Balock Melstone

INSTRUCTOR

Ryan Sandvig Fort Benton
 (Instrument)
 Michael Thorsen Great Falls
 William Ferguson Livingston
 (Advanced)
 Timothy Pfahler Big Timber
 John Rogers Lewistown

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MEMBER NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PURPOSE—"To foster aviation, as an industry, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform laws and regulations; and to otherwise encourage cooperation and mutual aid among the several states."



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Merry Christmas